



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,310

07/31/2007

Mitsuo Nakamura

Q95853

2343

23373 7590 12/30/2009  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

MICHALSKI, SEAN M

ART UNIT

PAPER NUMBER

3724

NOTIFICATION DATE

DELIVERY MODE

12/30/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com  
PPROCESSING@SUGHRUE.COM  
USPTO@SUGHRUE.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,310	<b>Applicant(s)</b> NAKAMURA, MITSUO	
	<b>Examiner</b> SEAN M. MICHALSKI	<b>Art Unit</b> 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-13 is/are rejected.
- 7) ☐ Claim(s) 7 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant has not described how the determination of frequency, amplitude and time period would be affected by the thickness, hardness or amount of strain of the rubber. One of ordinary skill would be unable to make and use the invention in accordance with this limitation, since no method, machine, or information is given as to how one could determine what amount of vibration is needed in response to different amounts of thickness or internal strain.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how to determine if someone would or would not be infringing on this step, since the determination on how to set the machine would be occurring in an operators mind.

***Claim Objections***

3. Claims 1, 3-10 are objected to because of the following informalities: The claim recites a “time period” of 1 second or longer. In the context of the claim the term “time period” may be easily confused with “period” an art recognized term being the inverse of frequency essentially. It would be better to refer to the “time period” unambiguously, as with the term “duration” or “length of time”. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano (US 5,846,475).

Yano discloses a rubber member conveying device (1 figure 2) including a vibration imparting part (10) that imparts vibration to a rubber member having internal strain (column 1) a conveying part which conveys the rubber (30, 10, 40 all convey they rubber) the rubber member is conveyed by the conveying member (it is a continuous piece of rubber) while being vibrated, wherein the vibration frequency is between 1-50 Hz, has an amplitude of 0.2-20mm and therefore a period of 1s- 1/50<sup>th</sup> s. The length of time the rubber will be vibrated is longer than one second, since the reference states:

Art Unit: 3724

“according to the present invention, it is necessary to apply vibration to the extruded rubber for a duration of not less than one second.”

Regarding claim 8, Yano discloses a delivery unit (33 figure 2) which delivers (to the vibrating part) a rubber with internal strain; and a cutting unit (column 6 lines 15-20) which cuts the rubber supplied by the delivery unit.

Regarding claim 9, Yano discloses the delivery unit being capable of intermittent running such that when the cut occurs the delivery unit stops delivering. This is what would happen if the system were powered down immediately after a cut- everything would stop. This is inherent in the arrangement of Yano, since powering down will always result in the claimed functionality.

Regarding claim 10, see extruder 2, 2a figure 2.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yano as set forth above.

Regarding claim 3, the amplitude can be set according to any parameter desired. the requirement that the amplitude be set according to an arbitrary and non-claimed rubber member is met by a showing that the device is capable of being used in

Art Unit: 3724

accordance with such a function. That is, since the device is capable of having its frequency and amplitude selected, it could be selected in response to the thickness, hardness and amount of strain of some rubber member.

8. Claims 1, 4-6, 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yano in view of Hodlewsky (US 4,821,869) and Ritchey (US 1,769,546).

Yano does not teach a vibrating imparting part that is integrally formed with a roller conveyor conveying part.

Hodlewsky teaches a roller conveyor including a rotating endless belt (10 figure 5) having a protruding part (32/54 figure 5) which are rollers which protrude on the outside of the belt-- which would be the rubber part loading side. Regarding claim 6, Hodlewsky further discloses the rollers axis of rotation is perpendicular to the conveyance direction.

Ritchey informs the state of the art, and discloses several pertinent facts- that it is known that rubber contracts after extrusion (page 1 lines 25-30) and that allowing the rubber to move at different speeds while being conveyed will allow the contraction (object of the invention- using cam rollers to allow for different localized speeds, page 1 lines 30-36).

The Vibration Mechanism of Yano includes rollers, which permit local changes in speed of the rubber as it contracts.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a conveyor such as Hodlewsky- having wheels and also imparting a

Art Unit: 3724

conveying force onto the materials being conveyed and to provide it with a vibration imparting force as taught by Yano. Using a conveyor will provide more flexibility in the design of the drive of the web, since it allows the speed of the drive to be controlled during the vibration step directly, and not by upstream or downstream elements.

In a combined Yano/Hodlewsky conveyor the rubber member would move because of the imparted forces from the wheeled conveyor, the revolving elements would be butted against the rubber member (because they protrude to support the work piece) and the rubber member would move relative to the protruding part due at least to the contraction experienced by the rubber while being vibrated in accordance with Yano.

### ***Allowable Subject Matter***

9. Claims 7 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: there is no reason to modify Yano in view of Hodlewsky to incorporate ball bearings (2 dimensional rollers). The rubber curing/ contracting art shows only systems for adjusting and modifying the contraction in one dimension (Yano, Ritchey) by roller bearings of a cylindrical nature. Changing the bearings is not seen to be obvious in view of the known prior art and consideration of the level of ordinary skill.

### ***Conclusion***

Art Unit: 3724

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN M. MICHALSKI whose telephone number is (571)272-6752. The examiner can normally be reached on M-F 7:30AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sean M Michalski/  
Examiner, Art Unit 3724

/Kenneth Peterson/  
Primary Examiner, Art Unit 3724